

CHECKLIST ENVIRONMENTAL ASSESSMENT

Project Name:	Seismic Permit #'s 1612-22, 1614-22, & 1615-22 (Thor Resources USA, LLC)
Proposed Implementation Date:	Spring/Summer 2022
Proponent:	Thor Resources USA, LLC, 1117 Macleod Trail SE, Suite #200, Calgary, Alberta T2G 2M8
Location:	T33N, R11E, Sec. 05 T33N, R11E, Sec. 16 T33N, R04E, Sec. 16 T34N, R10E, Sec. 36 T34N, R11E, Sec. 20 T34N, R04E, Sec. 16
County:	Hill & Liberty
Trust:	Common Schools (CS)

I. TYPE AND PURPOSE OF ACTION

Thor Resources USA, LLC (Thor Resources) proposes to implement a 2 – D seismic project on state sub-surface and state surface to locate helium producing formations, referred to herein as the "Project". The Project will generate energy sources using vibroseis equipment along 4.09 miles linear route of state sub-surface and 3.70-miles linear route of state surface throughout various tracts. See **Exhibit A**, Proposed Winter 2021/2022 Seismic Program, and **Exhibit B**, Project Location. This consists of a large buggy weighing approximately 18 tons and a 4-foot by 6-foot platform. The platform vibrates the ground surface using the weight of the buggy. This equipment is used to locate shallow helium-producing formations. The Project would minimally impact 4.09-miles of state sub-surface on various Oil and Gas Tracts. The majority of state surface impacts to ag and grazing leases 4769, 5747, 774 and 2257 would result from vibrating the platform and the manipulation of motorized vehicles. The Project is expected to temporarily disturb a small portion of the landscape through the operation of the vibrioses equipment, but no physical surface disturbance is expected.

II. PROJECT DEVELOPMENT

1. PUBLIC INVOLVEMENT, AGENCIES, GROUPS OR INDIVIDUALS CONTACTED:

Provide a brief chronology of the scoping and ongoing involvement for this project.

The Project is located on state-owned surface and sub-surface land and Thor Resources USA, LLC is the proponent. Agencies involved in the permitting process include the Montana Department of Natural Resources and Conservation, (DNRC) – Trust Land Management Division – Minerals Management Bureau.

Surface Lessees:

S2, Section 5, T33N, R11E- Lease No. 7741 – Deep Roots Partnership
ALL, Section 16, T33N, R11E – Lease No. 2257 – Rah-Kee Farms Inc.
ALL, Section 16, T33N, R4E – Lease No. 4769 – Fritz Inc.
Section 36, T34N, R10E – Lease No. 5747 – Darren Stevenson

Oil & Gas Lessees:

S2, Section 5, T33N, R11E – Lease No. OG-44013-21 – Tanner Maune
ALL, Section 16, T33N, R11E – Lease No. OG-44015-21 – Tanner Maune
ALL, Section 36, T34N, R10E – Lease No. OG-44020-21 – Tanner Maune
ALL, Section 16, T34N, R4E – Lease No. OG-11961-69 – A.B. Energy LLC

2. OTHER GOVERNMENTAL AGENCIES WITH JURISDICTION, LIST OF PERMITS NEEDED:

Thor Resources has applied for a DNRC seismic permit and is required to secure a security bond with the Secretary of State. The DNRC is not aware of any other agencies with jurisdiction or other permits needed to complete this Project. The Project will be permitted under Seismic Permit # 1612-22

3. ALTERNATIVES CONSIDERED:

Alternative A (No Action) – Deny Thor Resources the requested permit and permission to implement a 2 – D seismic project on state surface and sub-surface land.

Alternative B (the Proposed action) – Grant Thor Resources the requested permit and permission to implement a 2 – D seismic project on state surface and sub-surface land using the Conrad and Havre Unit Office's recommendations to minimize adverse environmental impacts.

III. IMPACTS ON THE PHYSICAL ENVIRONMENT

- *RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.*
- *Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.*
- *Enter "NONE" if no impacts are identified or the resource is not present.*

4. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:

Consider the presence of fragile, compactable or unstable soils. Identify unusual geologic features. Specify any special reclamation considerations. Identify any cumulative impacts to soils.

Soil Properties:

Liberty County

(28A) Nishon clay loam, 0 to 1 percent slopes

These soils consist of very deep (more than 80 inches), well-drained soils. These soils are found within closed depressions. Available water supply, 0 to 60 inches is about 10.3 inches; the mean annual precipitation for the region is 10 to 17 inches (Soil Survey of Liberty County, Montana Part 1, 2002).

(38B) Ethridge silty clay loam, 0 to 4 percent slopes

These soils consist of very deep (more than 80 inches), well-drained soils. These soils are found within alluvial fans. Available water supply, 0 to 60 inches is about 9.8 inches; mean annual precipitation for the region is 10 to 14 inches (Soil Survey of Liberty County, Montana Part 1, 2002).

(311B) Ferd-Creed-Gerdum complex, 0 to 4 percent slopes

These soils consist of very deep (more than 80 inches), well-drained soils. These soils are found within fans and terraces. Available water supply, 0 to 60 inches is about 9.4 inches (Ferd), about 6.5 inches (Creed), and about 5.8 inches (Gerdum); the mean annual precipitation for the region is 10 to 14 inches (Soil Survey of Liberty County, Montana Part 1, 2002).

(331B) Phillips-Elloam complex, 0 to 4 percent slopes

These soils consist of very deep (more than 80 inches – Phillips), and very shallow (2 to 4 inches to natric horizon – Elloam), well-drained soils. These soils are found within ground moraines. Available water supply, 0 to 60 inches is about 9.8 inches (Phillips) and about 0.5 inches (Elloam); the mean annual precipitation for the region is 10 to 14 inches (Soil Survey of Liberty County, Montana Part 1, 2002).

(421C) Joplin-Hillon loams, 2 to 8 percent slopes

These soils consist of very deep (more than 80 inches), well-drained soils. These soils are found within moraines. Available water supply, 0 to 60 inches is about 9.8 inches (Joplin) and about 8.8 inches (Hillon); the mean annual precipitation for the region is 10 to 14 inches (Soil Survey of Liberty County, Montana Part 1, 2002).

(441C) Kevin-Hillon clay loams, 2 to 8 percent slopes

These soils consist of very deep (more than 80 inches), well-drained soils. These soils are found within rises. Available water supply, 0 to 60 inches is about 10.0 inches (Kevin) and about 9.2 inches (Hillon); the mean annual precipitation for the region is 10 to 14 inches (Soil Survey of Liberty County, Montana Part 1, 2002).

(561B) Scobey-Kevin clay loams, 0 to 4 percent slopes

These soils consist of very deep (more than 80 inches), well-drained soils. These soils are found within flats. Available water supply, 0 to 60 inches is about 9.8 inches (Scobey) and about 10.0 inches (Kevin); the mean annual precipitation for the region is 10 to 14 inches (Soil Survey of Liberty County, Montana Part 1, 2002).

Hill County

(33A) Phillips loam, 0 to 4 percent slopes

These soils consist of very deep (more than 60 inches), well-drained soils. These soils are found within till plains. Available water supply, 0 to 60 inches is about 9.7 inches; the mean annual precipitation for the region is 10 to 13 inches (Soil Survey of Hill County, Montana Part 1, 2003).

(36A) Chinook fine sandy loam, 0 to 4 percent slopes

These soils consist of very deep (more than 60 inches), well-drained soils. These soils are found within alluvial fans and stream terraces. Available water supply, 0 to 60 inches is about 7.8 inches;; the mean annual precipitation for the region is 10 to 13 inches (Soil Survey of Hill County, Montana Part 1, 2003).

(96B) Fortbenton fine sandy loam, 0 to 4 percent slopes

These soils consist of very deep (more than 60 inches), well-drained soils. These soils are found within till plains. Available water supply, 0 to 60 inches is about 9.7 inches; the mean annual precipitation for the region is 10 to 13 inches (Soil Survey of Hill County, Montana Part 1, 2003).

(98B) Kremlin loam, 0 to 4 percent slopes

These soils consist of very deep (more than 60 inches), well-drained soils. These soils are found within alluvial fans. Available water supply, 0 to 60 inches is about 10.2 inches; the mean annual precipitation for the region is 10 to 13 inches (Soil Survey of Hill County, Montana Part 1, 2003).

(224D) Hillon-Joplin loams, 4 to 15 percent slopes

These soils consist of very deep (more than 60 inches), well-drained soils. These soils are found within hills. Available water supply, 0 to 60 inches is about 10 inches(Hillon) and 9.2 inches(Joplin); the mean annual precipitation for the region is 10 to 13 inches (Soil Survey of Hill County, Montana Part 1, 2003).

(272C) Attewan-Tinsley complex, 2 to 8 percent slopes

These soils consist of very deep (more than 60 inches), well-drained soils. These soils are found within kames and eskers. Available water supply, 0 to 60 inches is about 5 inches(Attewan) and 1.5 inches(Tinsley); the mean annual precipitation for the region is 10 to 13 inches (Soil Survey of Hill County, Montana Part 1, 2003).

(311B) Ferd-Creed-Gerdrum complex, 0 to 4 percent slopes

These soils consist of very deep (more than 60 inches), well-drained soils. These soils are found within fans and terraces. Available water supply, 0 to 60 inches is about 9.4 inches (Ferd), about 6.5 inches (Creed), and about 5.8 inches (Gerdrum); the mean annual precipitation for the region is 10 to 13 inches (Soil Survey of Hill County, Montana Part 1, 2003).

(331B) Phillips-Elloam complex, 0 to 4 percent slopes

These soils consist of very deep (more than 60 inches – Phillips), and very shallow (2 to 4 inches to natric horizon – Elloam), well-drained soils. These soils are found within ground moraines. Available water supply, 0 to 60

inches is about 9.8 inches (Phillips) and about 0.5 inches (Elloam); the mean annual precipitation for the region is 10 to 13 inches (Soil Survey of Hill County, Montana Part 1, 2003).

(381A) Ethridge clay loam, 0 to 2 percent slopes

These soils consist of very deep (more than 60 inches), well-drained soils. These soils are found within flats. Available water supply, 0 to 60 inches is about 9.8 inches; the mean annual precipitation for the region is 10 to 13 inches (Soil Survey of Hill County, Montana Part 1, 2003).

(421C) Joplin-Hillon loams, 2 to 8 percent slopes

These soils consist of very deep (more than 60 inches), well-drained soils. These soils are found within moraines. Available water supply, 0 to 60 inches is about 9.8 inches (Joplin) and about 8.8 inches (Hillon); the mean annual precipitation for the region is 10 to 13 inches (Soil Survey of Hill County, Montana Part 1, 2003).

(503B) Telstad-Joplin loams, 0 to 4 percent slopes

These soils consist of very deep (more than 60 inches), well-drained soils. These soils are found within foot slopes (Telstad) and back slopes (Joplin). Available water supply, 0 to 60 inches is about 9.9 inches (Telstad) and about 10.0 inches (Joplin); the mean annual precipitation for the region is 10 to 13 inches (Soil Survey of Hill County, Montana Part 1, 2003).

(561B) Scobey-Kevin clay loams, 0 to 4 percent slopes

These soils consist of very deep (more than 60 inches), well-drained soils. These soils are found within flats. Available water supply, 0 to 60 inches is about 9.8 inches (Scobey) and about 10.0 inches (Kevin); the mean annual precipitation for the region is 10 to 13 inches (Soil Survey of Hill County, Montana Part 1, 2003).

(951B) Kenilworth-Fortbenton fine sandy loams, 0 to 4 percent slopes

These soils consist of very deep (more than 60 inches), well-drained soils. These soils are found within till plains. Available water supply, 0 to 60 inches is about 10.2 inches (Kenilworth) and about 9.7 inches (Fortbenton); the mean annual precipitation for the region is 10 to 13 inches (Soil Survey of Hill County, Montana Part 1, 2003).

(962B) Kenilworth-Fortbenton complex, 0 to 4 percent slopes

These soils consist of very deep (more than 60 inches), well-drained soils. These soils are found within flats. Available water supply, 0 to 60 inches is about 9.8 inches (Scobey) and about 10.0 inches (Kevin); the mean annual precipitation for the region is 10 to 13 inches (Soil Survey of Hill County, Montana Part 3, 2002).

(965B) Fortbenton-Chinook fine sandy loams, 2 to 8 percent slopes

These soils consist of very deep (more than 60 inches), well-drained soils. These soils are found within till plains on black slopes. Available water supply, 0 to 60 inches is about 9.7 inches (Fortbenton) and about 7.8 inches (Chinook); the mean annual precipitation for the region is 10 to 13 inches (Soil Survey of Hill County, Montana Part 1, 2003).

(968C) Fortbenton-Hillon complex, 2 to 8 percent slopes

These soils consist of very deep (more than 60 inches), well-drained soils. These soils are found within Hills and on shoulders (Hillon) and back slopes (Fortbenton). Available water supply, 0 to 60 inches is about 10 inches (Hillon) and about 9.7 inches (Joplin); the mean annual precipitation for the region is 10 to 13 inches (Soil Survey of Hill County, Montana Part 1, 2003).

Soil Stability:

K – Factor:

Soils identified within the Project footprint have a Soil Erodibility (K) Factor of 0.20 to 0.37, see **Table 1** below for additional information.. The K Factor range is 0.02 to 0.69 (0.69 being the most susceptible to sheet and rill

erosion by water.) The K Factor is low to moderate for the Project site which indicates a low to moderate susceptibility to erosion by water.

Table 1 – K – Factor Rating by Soil Type

	Soil	Rating
Liberty County¹		
28A	Nishon clay loam, 0 to 1 percent slopes	0.37
38B	Ethridge silty clay loam, 0 to 4 percent slopes	0.32
311B	Ferd-Creed-Gerdum complex, 0 to 4 percent slopes	0.37
331B	Phillips-Elloam complex, 0 to 4 percent slopes	0.32
421C	Joplin-Hillon loams, 2 to 8 percent slopes	0.28
441C	Kevin-Hillon clay loams, 2 to 8 percent slopes	0.24
561B	Scobey-Kevin clay loams, 0 to 4 percent slopes	0.28
Hill County²		
33A	Phillips loam, 0 to 4 percent slopes	.32
36A	Chinook fine sandy loam, 0 to 4 percent slopes	.20
96B	Fortbenton fine sandy loam, 0 to 4 percent slopes	.20
98B	Kremlin loam, 0 to 4 percent slopes	.24
224D	Hillon-Joplin loams, 4 to 15 percent slopes	.28
272C	Attewan-Tinsley complex, 2 to 8 percent slopes	.28
311B	Ferd-Creed-Gerdum complex, 0 to 4 percent slopes	.28
331B	Phillips-Elloam complex, 0 to 4 percent slopes	.32
381A	Ethridge clay loam, 0 to 2 percent slopes	.24
421C	Joplin-Hillon loams, 2 to 8 percent slopes	.28
503B	Telstad-Joplin loams, 0 to 4 percent slopes	.28
561B	Scobey-Kevin clay loams, 0 to 4 percent slopes	.28
951B	Kenilworth-Fortbenton fine sandy loams, 0 to 4 percent slopes	.24
962B	Kenilworth-Fortbenton complex, 0 to 4 percent slopes	.37
965B	Fortbenton-Chinook fine sandy loams, 2 to 8 percent slopes	.20
968C	Fortbenton-Hillon complex, 2 to 8 percent slopes	.20

Wind Erodibility Group:

Soils identified within the Project footprint have a Wind Erodibility Group (WEG) of 3 to 6, see **Table 2** below for additional information. The WEG range is 1 – 8 (1 being the most susceptible to wind erosion and 8 being the least susceptible). The WEG is moderate for the Project site which indicates a moderate susceptibility to erosion by wind.

Table 2 – WEG Rating by Soil Type

	Soil	Rating
Liberty County		
28A	Nishon clay loam, 0 to 1 percent slopes	6
38B	Ethridge silty clay loam, 0 to 4 percent slopes	6
311B	Ferd-Creed-Gerdum complex, 0 to 4 percent slopes	6
331B	Phillips-Elloam complex, 0 to 4 percent slopes	6
421C	Joplin-Hillon loams, 2 to 8 percent slopes	6
441C	Kevin-Hillon clay loams, 2 to 8 percent slopes	6

¹ Soil data from Soil Survey of Liberty County, Montana Part 1, 2002

² Soil data from the Soil Survey of Hill County, Montana Part 1, 2003 & Soil Survey of Hill County, Montana Part 3, 2002

561B	Scobey-Kevin clay loams, 0 to 4 percent slopes	6
Hill County		
33A	Phillips loam, 0 to 4 percent slopes	6
36A	Chinook fine sandy loam, 0 to 4 percent slopes	3
96B	Fortbenton fine sandy loam, 0 to 4 percent slopes	3
98B	Kremlin loam, 0 to 4 percent slopes	6
224D	Hillon-Joplin loams, 4 to 15 percent slopes	6
272C	Attewan-Tinsley complex, 2 to 8 percent slopes	5
311B	Ferd-Creed-Gerdrum complex, 0 to 4 percent slopes	6
331B	Phillips-Elloam complex, 0 to 4 percent slopes	6
381A	Ethridge clay loam, 0 to 2 percent slopes	6
421C	Joplin-Hillon loams, 2 to 8 percent slopes	6
503B	Telstad-Joplin loams, 0 to 4 percent slopes	6
561B	Scobey-Kevin clay loams, 0 to 4 percent slopes	6
962B	Kenilworth-Fortbenton complex, 0 to 4 percent slopes	5
965B	Fortbenton-Chinook fine sandy loams, 2 to 8 percent slopes	3
968C	Fortbenton-Hillon complex, 2 to 8 percent slopes	3

**Tie-break Rule: Lower*

Suitabilities and Limitations for Use:

Soil Susceptibility to Compaction:

Soils identified within the Project footprint of Liberty County were identified as having a "medium" susceptibility to compaction. Soils identified within the Project footprint of Hill County were identified as having a "medium" susceptibility to compaction. NRCS defines "medium" as "The potential for compaction is significant. The growth rate of seedlings may be reduced following compaction. After the initial compaction (i.e., the first equipment pass), this soil is able to support standard equipment with only minimal increases in soil density. The soil is intermediate between moisture insensitive and moisture sensitive" (Soil Surveys of Liberty and Hill Counties).

BMPs:

The 2 – D seismic exploration will be implemented through the generation of energy sources using vibroseis equipment along 4.09 miles linear route of state sub-surface and 3.70-miles linear route of state surface. The process involves driving a large buggy weighing approximately 18 tons along the route and the use of a 4-foot by 6-foot platform to vibrate the ground. Project activities will occur when soils are dry and/or frozen to minimize soil erosion, compaction, and rutting from the manipulation of vehicles on the surface. As part of the granted permit, the DNRC will require Thor Resources to comply with all stipulations outlined in **Attachment A**.

Determination:

Effect, Not Likely to Adversely Effect. The Project has the potential to impact soils, however, given its low to moderate susceptibility to erosion, medium susceptibility to compaction, and the implementation of the BMPs described above, the Project is not expected to have negative cumulative effects on soil.

5. WATER QUALITY, QUANTITY AND DISTRIBUTION:

Identify important surface or groundwater resources. Consider the potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality. Identify cumulative effects to water resources.

Surface or Groundwater Resources:

Liberty County:

Section 16, T33N, R4E:

Eagle Creek is located approximately 1 mile east of the impacted state surface land in Section 16, T33N, R4E and flows north to south. There are three reservoirs located on Section 16, T33N, R4E; one located in the SE4NW4 approximately 700 feet north of the Project footprint (water right 41N 21788 00), the second located in the NE4SE4 approximately 400 feet south of the Project footprint (water right 41N 21787 00), and the third located in the SW4SW4 approximately 2,400 feet south of the Project footprint (water right 41N 21789 00). There is a buried rural water line located in PT NW4NE4, PT NE4NW4, PT SW4, granted to Galata County Water District under easement D-06792. There is a known groundwater diversion in the NE4SE4 (water right 41N 21790 00). For additional information see <http://wrqs.dnrc.mt.gov/default.aspx>.

Section 16, T34N, R4E:

Eagle Creek is located approximately 0.25 mile west of the impacted state sub-surface land in the NE4NE4 of Section 16, T34N, R4E and is dammed for a reservoir of approximately 10.20 acres used for stock and irrigation (multiple water rights). There are two more reservoirs located on Section 16, T34N, R4E; one located in the NE4SE4 approximately 0.60 mile south of the Project footprint (water right 41N 113493 00), the second located in the SE4SE4 approximately 0.80 mile south of the Project footprint (multiple water rights). For additional information see <http://wrqs.dnrc.mt.gov/default.aspx>.

Hill County:

Section 05 & 16, T33N, R11E

Sage Creek is located approximately 1 mile west of the impacted state surface in Section 5, T33N, R11E and 1.50 miles west of Section 16, T33N, R11E. Sage Creek flows north to south. There is a reservoir located in the SE4SW4 of Section 16, T33N, R11E. There are no known water rights within or near the Project footprint. For additional information see <http://wrqs.dnrc.mt.gov/default.aspx>.

Section 36, T34N, R10E

Sage Creek flows northwest to southwest through Section 36, T34N, R10E and is used for stock purposes under water right 40G 128294 00. For additional information see <http://wrqs.dnrc.mt.gov/default.aspx>.

Section 20 T34N, R11E

Sage Creek is located approximately 2.5 miles west of the impacted state sub-surface in Section 20, T34N, R11E. There are no known water rights within or near the Project footprint. For additional information see <http://wrqs.dnrc.mt.gov/default.aspx>.

BMPs:

The 2 – D seismic exploration will be implemented through the generation of energy sources using vibroseis equipment along a 4.09 miles linear route of state sub-surface and 3.70-miles linear route of state surface. The process involves driving a large buggy weighing approximately 18 tons along the route and the use of a 4-foot by 6-foot platform to vibrate the ground. Project activities are prohibited within 300 feet of surface water, wells, and water pipelines to ensure water resources are protected. As part of the granted permit, the DNRC will require Thor Resources to comply with all stipulations outlined in **Attachment A**.

Determination:

Effect, Not Likely to Adversely Effect. The Project has the potential to impact water resources. However, given that the Project is prohibited within 300 feet of water resources and the implementation of the BMPs the Project is not expected to have negative cumulative effects on water quality.

6. AIR QUALITY:

What pollutants or particulate would be produced? Identify air quality regulations or zones (e.g. Class I air shed) the project would influence. Identify cumulative effects to air quality.

Air Quality:

There are no Nonattainment areas located on or near the Project, per the Environmental Protection Agency (EPA) Nonattainment area maps (NEPAssist, 2022). The proposed activities will not result in any new air emissions.

Determination:

No Effect. It is not anticipated that the Project would result in negative cumulative effects on air quality.

7. VEGETATION COVER, QUANTITY AND QUALITY:

What changes would the action cause to vegetative communities? Consider rare plants or cover types that would be affected. Identify cumulative effects to vegetation.

Vegetative Community:**Liberty County:*****Section 16, T33N, R4E:***

Surrounding land in this portion of the Project consists of grazing land with a vegetation mix of Western Wheatgrass (*Agropyron smithii*), Winterfat (*Krascheninnikovia lanata*), Blue grama (*Bouteloua gracilis*), Needle and Thread (*Hesperostipa comata*), Sandberg Bluegrass (*Poa secunda*), Prairie Junegrass (*Koeleria macrantha*), Threadleaf Sedge (*Carex filifolia*), and Kentucky Bluegrass (*Poa pratensis*). Noxious weeds were not identified within the Project footprint. The Natural Heritage Program database did not indicate any plant species of concern within Township 33N Range 4E.

Section 16, T34N, R4E:

Surrounding land in this portion of the Project consists of agricultural land. The Natural Heritage Program database did not indicate any plant species of concern within Township 33N Range 4E.

Hill County:***Section 05 & 16, T33N, R11E***

Surrounding land in this portion of the Project consists of agricultural land. The Natural Heritage Program database did not indicate any plant species of concern within Township 33N Range 11E.

Section 36, T34N, R10E

Surrounding land in this portion of the Project consists of grazing land of a vegetation mix of native grassland. The Natural Heritage Program database did not indicate any plant species of concern within Township 34N Range 10E.

Section 20, T34N, R11E

Surrounding land in this portion of the Project consists of agricultural land. The Natural Heritage Program database did not indicate any plant species of concern within Township 34N Range 11E.

BMPs:

As part of the stipulations under the granted permit, the DNRC will require Thor Resources to prevent the spread of noxious weeds on state surface and sub-surface lands, by power washing vehicles and ATVs before use on the Project. As part of the granted permit, the DNRC will require Thor Resources to comply with all stipulations outlined in **Attachment A**.

Determination:

Effect, Not Likely to Adversely Effect. The majority of state surface impacts (Lease No. 4769, 5747, 7741, and 2257) would result from vibrating the platform and the manipulation of motorized vehicles. The Project is expected to temporarily disturb a small portion of the landscape through the operation of the vibroseis equipment, but no physical surface disturbance is expected and with the implementation of the BMPs proposed above negative cumulative effects on vegetative resources are not expected.

8. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:

Consider substantial habitat values and use of the area by wildlife, birds or fish. Identify cumulative effects to fish and wildlife.

Habitat:

The Project site is not considered Critical Habitat per the EPA. The surrounding area provides habitat for a variety of big game species, predators, upland game birds, other non-game mammals, birds of prey, and various songbirds.

BMPs:

As part of the granted permit, the DNRC will require Thor Resources to comply with all stipulations outlined in **Attachment A**.

Determination:

The Project has the potential to impact wildlife temporarily through the operation of heavy equipment. However, the Project will not impact wildlife forage, cover, or travel corridors. Nor will this action change the juxtaposition of wildlife forage, water, or hiding and thermal cover. Wildlife usage is expected to return to "normal" (pre-action usage) following the completion of Project activities. Overall, the Project is not expected to have negative cumulative effects on wildlife or habitat.

9. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:

Consider any federally listed threatened or endangered species or habitat identified in the project area. Determine effects to wetlands. Consider Sensitive Species or Species of special concern. Identify cumulative effects to these species and their habitat.

Species of Concern/Threatened/Endangered:

Federally listed Threatened mammal and avian species that occur in Montana include Grizzly Bear (*Ursus arctos horribilis*), Canada Lynx (*Lynx canadensis*), and Piping Plover (*Charadrius melodus*). Federally listed Endangered mammal and avian species that occur in Montana include Black Footed Ferret (*Mustela nigripes*), Least Tern (*Sternula antillarum*), and Whooping Crane (*Grus americana*).

The National Heritage Program database identifies Chestnut-collared Longspur (*Calcarius ornatus*) and Thick-billed Longspur (*Rhynchophanes mccownii*) as a species of concern within Township 33N, Range 4E; Ferruginous Hawk (*Buteo regalis*) as a species of concern within Township 34N, Range 4E; Ferruginous Hawk (*Buteo regalis*), Loggerhead Shrike (*Laius ludoricianus*), Black-necked Stilt (*Himantopus mexicanus*), and Plains Hog-nosed Snake (*Heterodon nasicus*) as species of concern within Township 33N, Range 11E; Ferruginous Hawk (*Buteo regalis*) and Loggerhead Shrike (*Laius ludoricianus*) as species of concern within Township 34N, Range 10E; and Loggerhead Shrike (*Laius ludoricianus*) as a species of concern within Township 34N, Range 11E.

Wetlands:**Liberty County:**

The National Wetland Inventory (NWI) identifies a Freshwater Emergent Wetland habitat with a classification code of PEM1C within Section 16, T33N, R4E. The NWI identifies a Freshwater Pond (reservoir) habitat with a classification code of PABFh and various Freshwater Emergent Wetland habitats with classification codes of PEM1C, PEM1Ch, PEM1A, within Section 16, T34N, R4E. See **Exhibit C**, Wetland Map. For a complete description of wetland classification codes, go to <https://www.fws.gov/wetlands/data/Mapper.html>.

Hill County:

The National Wetland Inventory (NWI) identifies a Freshwater Emergent Wetland habitat with a classification code of PEM1C within Section 05, T33N, R11E. The NWI identifies various Freshwater Emergent Wetland habitat with a classification code of PEM1A throughout Section 16, T33N, R11E. The NWI identifies a Freshwater Emergent Wetland habitats in the NE4 and SE4 with classification codes of PEM1C and PEM1A, as well as a River Habitat (Sage Creek) with a classification code of R4SBC within Section 36, T34N, R10E. The NWI does not identify any wetlands within the W2 of Section 20, T34N, R11E. See **Exhibit C**, Wetland Map. For a complete description of wetland classification codes, go to <https://www.fws.gov/wetlands/data/Mapper.html>.

BMPs:

Project activities will occur when soils are dry and/or frozen to minimize soil erosion, compaction, and rutting from the manipulation of vehicles on the surface. As part of the granted permit, the DNRC will require Thor Resources to comply with all stipulations outlined in **Attachment A**.

Determination:

The Project has the potential to impact wildlife temporarily through the operation of heavy equipment. However, the Project will not impact wildlife forage, cover, or travel corridors. Nor will this action change the juxtaposition of wildlife forage, water, or hiding and thermal cover. Wildlife usage is expected to return to "normal" (pre-action usage) following the completion of Project activities. The Project has the potential to impact wetlands through the operation of heavy equipment, however, given that Project will not physically disturb soils and that Thor Resources is required to comply with all stipulations outlined in **Attachment A**, negative cumulative effects on wetlands are not expected. Overall, the Project is not expected to have negative cumulative effects on unique, endangered, fragile or limited environmental resources.

10. HISTORICAL AND ARCHAEOLOGICAL SITES:

Identify and determine effects to historical, archaeological or paleontological resources.

Historical and Archeological Sites:

A Class I (literature review) level review was conducted by the DNRC staff archaeologist for the APE. This entailed inspection of project maps, DNRC's sites/site leads database, land use records, General Land Office Survey Plats, and control cards. The Class I search revealed that no cultural or paleontological resources have been identified in the APE, but it should be noted that Class III level inventory work has not been conducted there to date.

Determination:

Because of the low potential for the project to impact cultural resources, a recommendation No Effect to Antiquities is offered here. No additional archaeological investigative work will be conducted in response to this proposed development. However, if previously unknown cultural or paleontological materials are identified during project-related activities, all work will cease until a professional assessment of such resources can be made.

11. AESTHETICS:

Determine if the project is located on a prominent topographic feature, or may be visible from populated or scenic areas. What level of noise, light or visual change would be produced? Identify cumulative effects to aesthetics.

Visual and Noise:**Liberty County:****Section 16, T33N, R4E:**

This portion of the Project is located approximately 10 miles north of Lothair, Montana (population 32) and adjacent to Lothair Road.

Section 16, T34N, R4E:

This portion of the Project is not located near any population centers and is approximately 0.90 mile from Lothair Road.

Hill County:

Section 05, T33N, R11E

This portion of the Project is located approximately 5 miles north of Gifford, Montana (population 171) and adjacent to Road 195 North.

Section 16, T33N, R11E

This portion of the Project is located approximately 2.5 miles north of Gifford, Montana (population 171) and adjacent to Gifford Road North and Road 30 North.

Section 36, T34N, R10E

This portion of the Project is located approximately 3 miles northwest of Gifford, Montana (population 171) and approximately 1 mile west of Road 195 N.

Section 20, T34N, R11E

This portion of the Project is located approximately 7.5 miles north of Gifford, Montana (population 171) and is adjacent to Road 195 North and Road 80 North.

Determination:

Effect, Not Likely to Adversely Effect. The Project has the potential to have visual and noise impacts on the public who utilize public roads. However, given the short duration of the Project and that it will not cause a change in the aesthetic character of the land, it is not expected to have cumulative impacts on aesthetics.

12. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY:

Determine the amount of limited resources the project would require. Identify other activities nearby that the project would affect. Identify cumulative effects on environmental resources.

No Effect. The demand on environmental resources such as land, water, air, or energy will not be affected by the Project. The Project will not consume resources that are limited in the area. There are no other projects in the area that will affect the Project. The Project does not propose the use of limited natural resources and is not expected to have cumulative impacts on environmental resources.

13. OTHER ENVIRONMENTAL DOCUMENTS PERTINENT TO THE AREA:

List other studies, plans or projects on this tract. Determine cumulative impacts likely to occur as a result of current private, state or federal actions in the analysis area, and from future proposed state actions in the analysis area that are under MEPA review (scoped) or permitting review by any state agency.

Surrounding land consists of a surface use of grazing and agriculture. Any future development in the area will likely be restricted to utility or mineral development, with minimal impacts to the surface. Future development of projects are not expected to have negative cumulative effects.

IV. IMPACTS ON THE HUMAN POPULATION

- RESOURCES potentially impacted are listed on the form, followed by common issues that would be considered.
- Explain POTENTIAL IMPACTS AND MITIGATIONS following each resource heading.
- Enter "NONE" if no impacts are identified or the resource is not present.

14. HUMAN HEALTH AND SAFETY:

Identify any health and safety risks posed by the project.

Human Health and Safety:

Personnel involved with the Project activities include Thor Resources personnel, where health and safety risks consist of the normal day-to-day operations of conducting seismic exploration.

Determination:

No Effect. Any risk to human health and safety will be restricted to Thor Resources personnel during the normal day-to-day operations of conducting seismic exploration and it is assumed Thor Resources will abide by all Occupational Safety and Health Administration laws.

15. INDUSTRIAL, COMMERCIAL AND AGRICULTURE ACTIVITIES AND PRODUCTION:

Identify how the project would add to or alter these activities.

Land Use:

The current land use on the Project is a mix of grazing, agriculture and mineral development throughout various state surface and state sub-surface tracts. See **Table 3 – Surface Use** and **Table 4 – Subsurface Use**, for a further breakdown.

Table 3 – Surface Use:

STRID	County	Affected Acreage (ft.)	Type of Use	Agr. No.	Lessee
33N 11E 05	Hill	5,610.01	Agriculture	7741	Deep Roots Partnership
33N 11E 16	Hill	2,737.83	Agriculture	2257	Rah-Kee Farms Inc.
33N 4E 16	Liberty	7,839.36	Grazing	4769	Fritz Inc.
34N 10E 36	Hill	3,372.54	Grazing	5747	Darren Stevenson
Total Feet		19,559.74			
Total Miles		3.70			

Table 4 – Sub-surface Use:

STRID	County	Affected Acreage (ft.)	Oil and Gas Lease	Oil and Gas Lessee	Mineral Tract ID
33N 11E 05	Hill	5,610.01	OG-44013-21	Tanner Maune	48379
33N 11E 16	Hill	2,737.83	OG-44015-21	Tanner Maune	48391
33N 4E 16	Liberty	7,839.36	NA	NA	48118
34N 10E 36	Hill	3,372.54	OG-44020-21	Tanner Maune	50090
34N 11E 20	Hill	1,538.30	NA	NA	50122
34N 4E 16	Liberty	504.58	OG-11961-69	A.B. Energy LLC	49855
Total Feet		21,602.62			
Total Miles		4.09			

Production:

The Project will benefit the Common School Trust in terms of a one-time permit fee of approximately \$250.00. The Project will not impede the existing production of state surface leases 4769 and 5747 or sub-surface oil and gas leases OG-44013-21, OG-44015-21, OG-44020-21, and OG-11961-69. Production of agricultural leases 7741 and 2257 have the potential to be impacted if the surface Lessees have planted crops. The intent of the Project is to locate shallow geological formations that may contain helium. If tests indicate that economically recoverable quantities of helium are achievable, a producing well will likely be established, and extraction will follow.

BMPs:

The 2 – D seismic exploration will be implemented through the generation of energy sources using vibroseis equipment along a 4.09 miles linear route of state sub-surface and 3.70-miles linear route of state surface. The process involves driving a large buggy weighing approximately 18 tons along the route and the use of a 4-foot by 6-foot platform to vibrate the ground. Project activities are prohibited within 300 feet of surface water, wells, and water pipelines to ensure water resources are protected. As part of the granted easement, the DNRC will require Thor Resources to comply with all stipulations outlined in **Attachment A**.

Determination:

Effect, Not Likely to Adversely Effect.. The Project is expected to increase production through a one-time incumbrance fee to the Common Schools Trust and potentially future royalty fees if new helium resources are located. The Project does have potential to impact agricultural leases 7741 and 2257 if the Lessee's have planted crops, however, Thor Resources is required to settle surface damages with the Lessee prior to Project activities. The Project is not expected to have negative cumulative effects on future land use activities.

16. QUANTITY AND DISTRIBUTION OF EMPLOYMENT:

Estimate the number of jobs the project would create, move or eliminate. Identify cumulative effects to the employment market.

Determination:

Effect, Beneficial Effect. The Project would provide short-term jobs associated with seismic activities. The proposed action may increase long-term employment in the surrounding communities if new helium resources are located.

17. LOCAL AND STATE TAX BASE AND TAX REVENUES:

Estimate tax revenue the project would create or eliminate. Identify cumulative effects to taxes and revenue.

Revenues:

See Section 15 above.

Determination:

Effect, Not Likely to Adversely Effect.. The Project is expected to increase production through a one-time incumbrance fee to the Common Schools Trust and potentially future royalty fees if new helium resources are located. The Project does have potential to impact agricultural leases 7741 and 2257 if the Lessee's have planted crops, however, Thor Resources is required to settle surface damages with the Lessee prior to Project activities. The Project is not expected to have negative cumulative effects on local and state tax base and revenues.

18. DEMAND FOR GOVERNMENT SERVICES:

Estimate increases in traffic and changes to traffic patterns. What changes would be needed to fire protection, police, schools, etc.? Identify cumulative effects of this and other projects on government services

Demand for Government Services:

Additional government services (e.g. fire protection, police, schools, etc.) are not required for seismic activities. This Project is of a small scale and is being funded by Thor Resources. There will be no excessive stress placed on the existing infrastructure of the area.

Determination:

No Effect. Future Project activities are not expected to impact traffic, increase demand for government services, or place excessive stress on the existing infrastructure of the area. Therefore, the Project is not expected to have negative cumulative effects on government services.

19. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS:

List State, County, City, USFS, BLM, Tribal, and other zoning or management plans, and identify how they would affect this project.

Determination:

No Effect. The Project is in compliance with State and County laws. The Project will be granted under permit 1612-22 issued by the DNRC. No other management plans are in effect for the area.

20. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES:

Identify any wilderness or recreational areas nearby or access routes through this tract. Determine the effects of the project on recreational potential within the tract. Identify cumulative effects to recreational and wilderness activities.

Legal Access and Recreation Opportunities:

State surface tracts 7741, 2257, and 4769 are legally accessible to the public and state surface tract 5747 is not legally accessible. Recreation potential consists of hunting.

Determination:

No Effect. The Project will not result in any new permanent impacts to the surface of the land, impact access, or recreational opportunities. The Project is not expected to have negative cumulative effects on recreational and wilderness activities.

21. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING:

Estimate population changes and additional housing the project would require. Identify cumulative effects to population and housing

Determination:

No Effect. The Project will not change the human population distribution or the housing requirements in the area. The project is not expected to have negative cumulative effects on population and housing.

22. SOCIAL STRUCTURES AND MORES:

Identify potential disruption of native or traditional lifestyles or communities.

Social Structures:

The Project is not located significantly close (< 1 mile) to Hutterite colonies or Tribal Nations. No archeological sites were identified within the Project footprint.

Determination:

No Effect. The Project is consistent with the surrounding land use, therefore, negative cumulative effects on native or traditional lifestyles or communities are not expected.

23. CULTURAL UNIQUENESS AND DIVERSITY:

How would the action affect any unique quality of the area?

Determination:

No Effect. The Project will not result in any new activities to occur in the area and therefore it is not expected to have negative cumulative effects on the unique quality of the area.

24. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:

Estimate the return to the trust. Include appropriate economic analysis. Identify potential future uses for the analysis area other than existing management. Identify cumulative economic and social effects likely to occur as a result of the proposed action.

The Project is expected to increase production through a one-time incumbrance fee to the Common Schools Trust and potentially future royalty fees if new helium resources are located. The Project does have potential to impact agricultural leases 7741 and 2257 if the Lessee's have planted crops, however, Thor Resources is required to settle surface damages with the Lessee prior to Project activities. .

Any future development in the area will likely be restricted to utility or mineral development, with minimal impacts to the surface. Future development of projects is not expected to have negative cumulative effects.

The DNRC will require Thor Resources to comply with all stipulations outlined in **Attachment A**.

EA Checklist Prepared By:	Name: Michaela Hanson	Date: 4/25/2022
	Title: Land Use Specialist, Conrad Unit, Central Land Office	
	Name: Dan Pendegraph	Date: 4/29/2022
	Title: Land Use Specialist, Havre Unit, Southern Land Office	

V. FINDINGS

25. ALTERNATIVE SELECTED:

Alternative B (the Proposed action) – Grant Thor Resources the requested permit and permission to implement a 2 – D seismic project on state land using the Conrad and Havre Unit Office's recommendations to minimize adverse environmental impacts.

26. SIGNIFICANCE OF POTENTIAL IMPACTS:

No significant impacts are expected. Small scale / temporary disturbances will occur as a result of Project activities, but it has been determined the effects will not be cumulative or significantly adverse. The DNRC will require Thor Resources to comply with all stipulations outlined in **Attachment A** to mitigate and minimize the potential for environmental impacts.

27. NEED FOR FURTHER ENVIRONMENTAL ANALYSIS:

☐

EIS

☐

More Detailed EA

☒

No Further Analysis


EA Checklist Approved By:	Name: Erik Eneboe
	Title: Conrad Unit Manager, CLO, DNRC
Signature: 	Date: May 3, 2022

Exhibit A
Proposed Winter 2021/2022 Seismic Program

EXHIBIT "A"

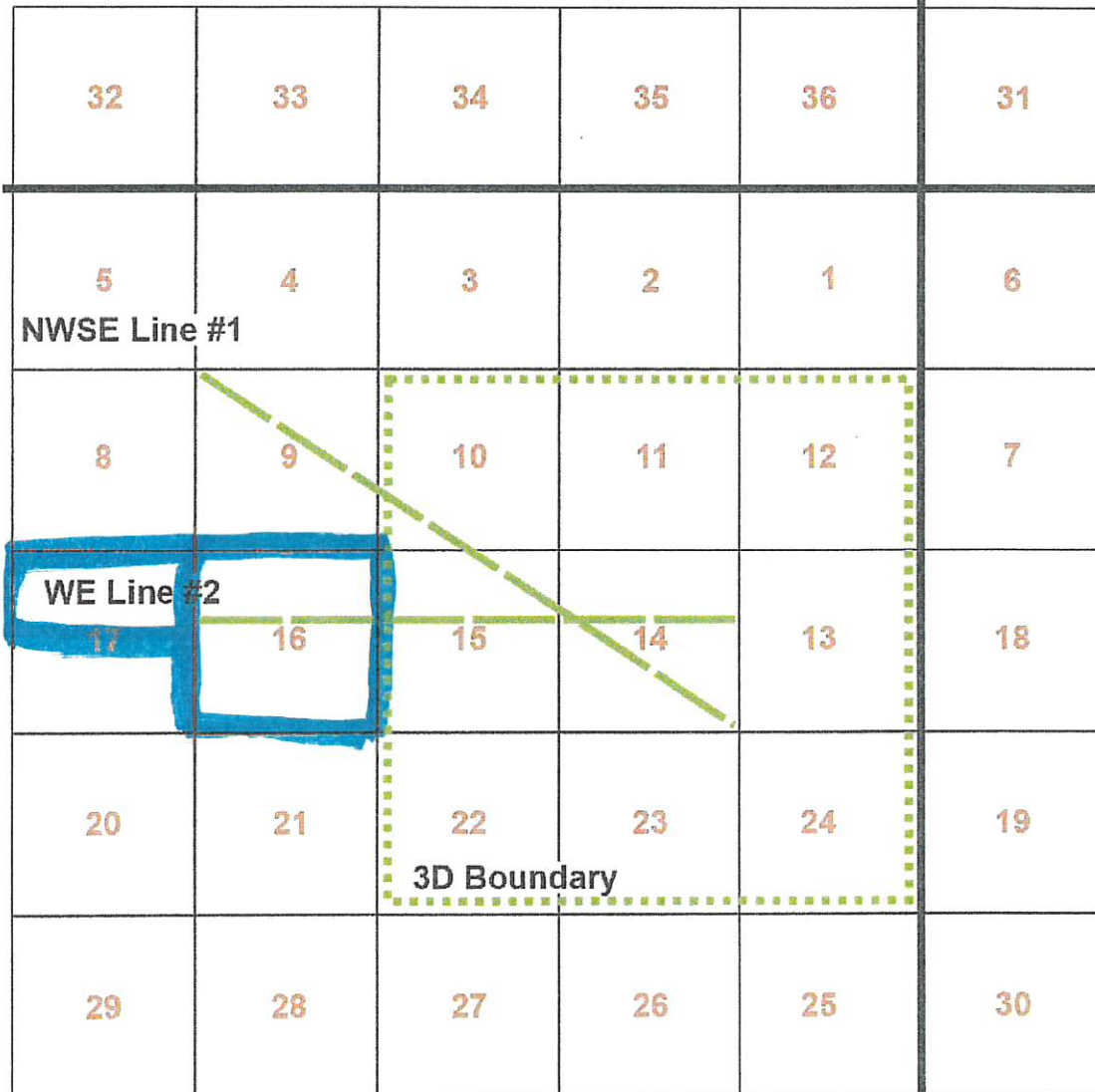
Attached to the Seismic Application of Thor Resources USA, LLC dated 1-26-2022

Geophysical Company:
Echo Seismic USA, Inc.
Unit B 435
Castle Rock, CO 80104

General Contact
720-263-9000
info@echo-group.net

Project Point of Contact
Kenzie MacDonald
902-595-0449
macdonaldk@echo-group.net

Township 33 North, Range 4 East



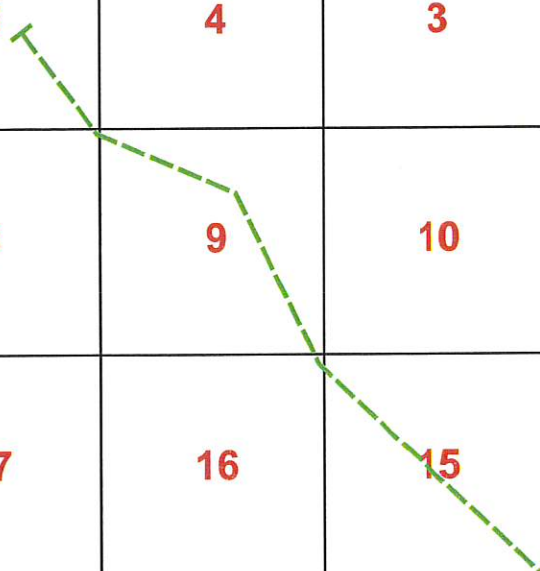
Thor Resources USA, Inc.
Liberty County, Montana

Proposed Winter 2021/2022 Seismic Program

GRANDVIEW FIELD

Township 34 North, Range 4 East

31	32	33	34	35	36
6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25



Thor Resources Inc.

Liberty County, Montana

Proposed Winter 2021/2022 Seismic Program

HILL COUNTY AREA

Township 33 & 34 North, Range 10 & 11 East

R10E

R11E

14	13	18	17	16	15
23	24	19	20	21	22
26	25	30	29	28	27
35	36	31	32	33	34
2	1	6	5	4	3
11	12	7	8	9	10
14	13	18	17	16	15
23	24	19	20	21	22

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Thor Resources Inc.



U.S. Fish and Wildlife Service

National Wetlands Inventory

Exhibit C - Wetland Map Section 16, T34N, R4E



April 22, 2022

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond

- Lake
- Other
- Riverine

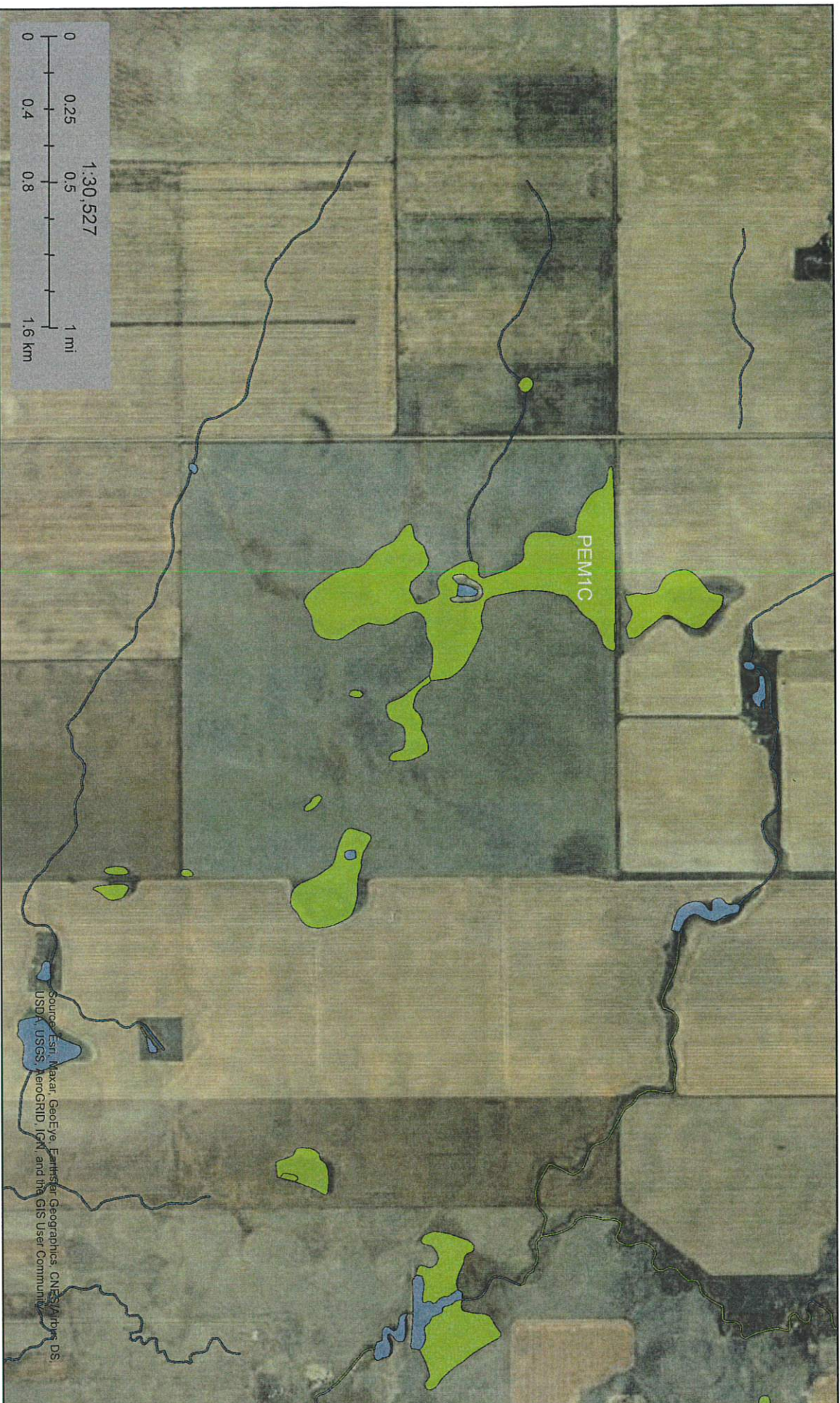
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN, and the GIS User Community

This map is for general reference only. The U.S. Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



U.S. Fish and Wildlife Service
National Wetlands Inventory

Exhibit C - Wetland Map
Section 16, T33N, R4E



February 22, 2022

Wetlands

- | | | | |
|--|-----------------------------------|--|----------|
| | Freshwater Emergent Wetland | | Lake |
| | Freshwater Forested/Shrub Wetland | | Other |
| | Estuarine and Marine Deepwater | | Riverine |
| | Estuarine and Marine Wetland | | |
| | Freshwater Pond | | |

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U.S. Fish and Wildlife Service

National Wetlands Inventory

Exhibit C - Wetland Map Section 20, T34N, R11E



May 3, 2022

Wetlands



Estuarine and Marine Deepwater

Estuarine and Marine Wetland

Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland

Freshwater Pond

Lake

Other

Riverine

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS,
USDA, USGS, AeroGRID, IGN, and the GIS User Community

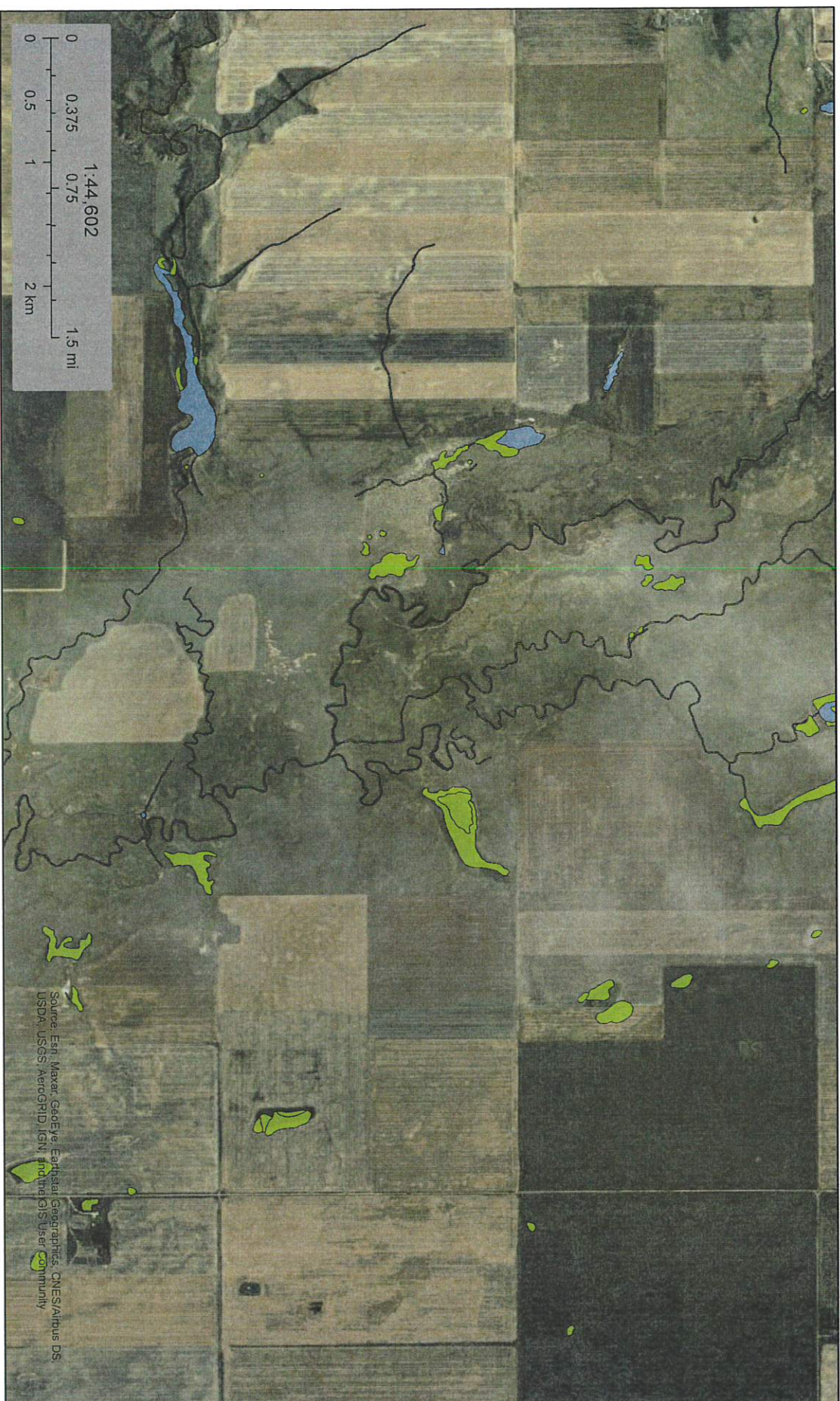
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U.S. Fish and Wildlife Service

National Wetlands Inventory

Exhibit C - Wetland Map Section 36, T34N, R10E



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May 3, 2022

Wetlands

- | | | | |
|--|-----------------------------------|--|----------|
| | Freshwater Emergent Wetland | | Lake |
| | Freshwater Forested/Shrub Wetland | | Riverine |
| | Estuarine and Marine Deepwater | | |
| | Estuarine and Marine Wetland | | |
| | Freshwater Pond | | |
| | Other | | |



U.S. Fish and Wildlife Service

National Wetlands Inventory

Exhibit C - Wetland Map

Section 16, T33N, R11E



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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May 3, 2022

Wetlands

- | | | | | | |
|---|--------------------------------|---|-----------------------------------|---|----------|
|  | Estuarine and Marine Deepwater |  | Freshwater Emergent Wetland |  | Lake |
|  | Estuarine and Marine Wetland |  | Freshwater Forested/Shrub Wetland |  | Other |
|  | |  | Freshwater Pond |  | Riverine |



U.S. Fish and Wildlife Service

National Wetlands Inventory

Exhibit C - Wetland Map Section 5, T33N, R11E



May 3, 2022

Wetlands

- | | | | |
|---|-----------------------------------|---|----------|
|  | Freshwater Emergent Wetland |  | Lake |
|  | Freshwater Forested/Shrub Wetland |  | Other |
|  | Freshwater Pond |  | Riverine |
|  | Estuarine and Marine Deepwater | | |
|  | Estuarine and Marine Wetland | | |

Source: ESRI, Maxar, GeoEye, Earthstar, GeoGraphics, CNES/Airbus DS,
USDA, IGN, IGN, and the GIS User Community

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U.S. Fish and Wildlife Service

National Wetlands Inventory

Exhibit C - Wetland Map Section 16, T34N, R4E



Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

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April 22, 2022

Wetlands



Estuarine and Marine Deepwater

Estuarine and Marine Wetland



Freshwater Emergent Wetland

Freshwater Forested/Shrub Wetland



Freshwater Pond



Lake



Other

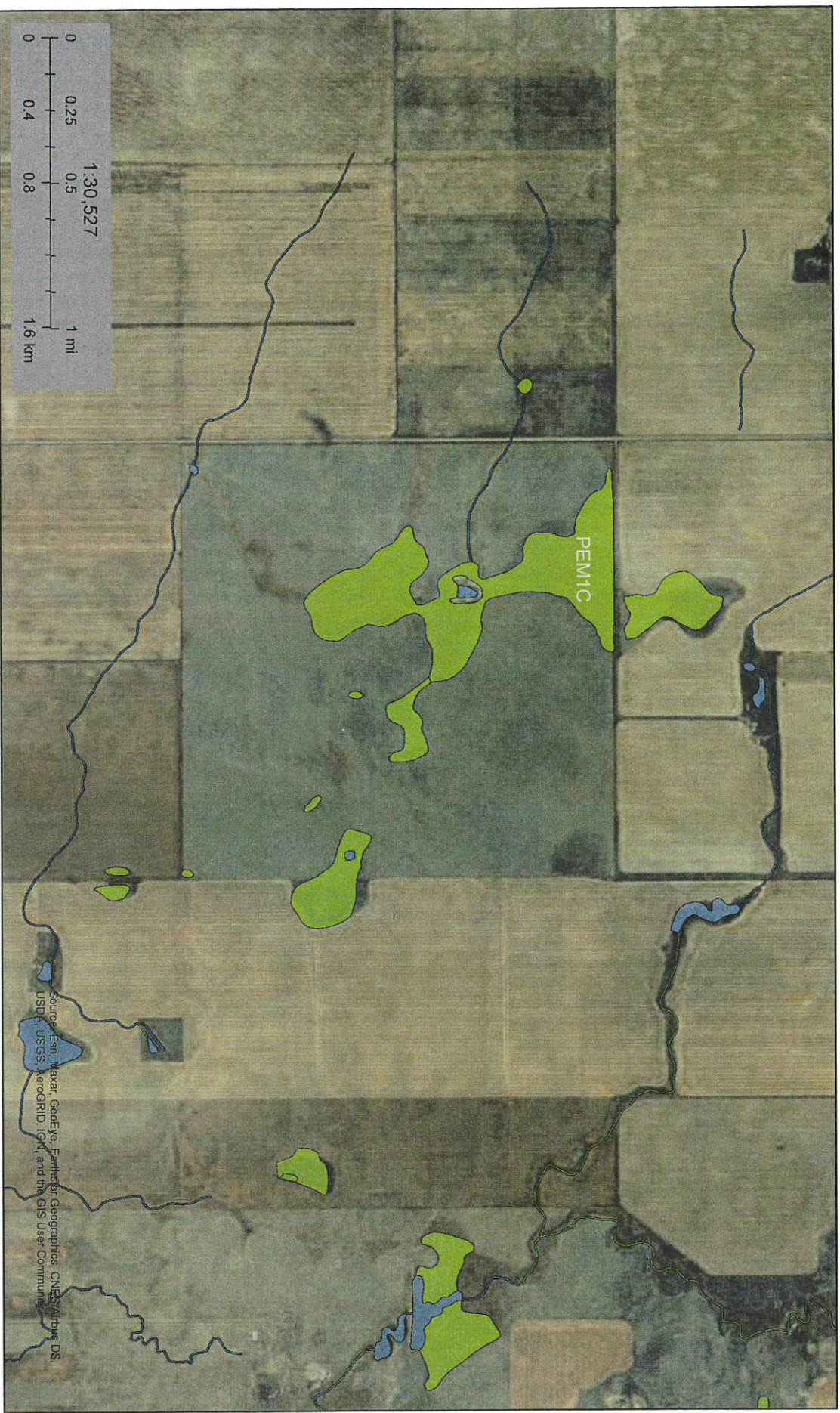


Riverine



U.S. Fish and Wildlife Service
National Wetlands Inventory

Exhibit C - Wetland Map
Section 16, T33N, R4E



February 22, 2022

Wetlands

- | | | | | | |
|--|--------------------------------|--|-----------------------------------|--|----------|
| | Estuarine and Marine Deepwater | | Freshwater Emergent Wetland | | Lake |
| | Estuarine and Marine Wetland | | Freshwater Forested/Shrub Wetland | | Other |
| | | | Freshwater Pond | | Riverine |

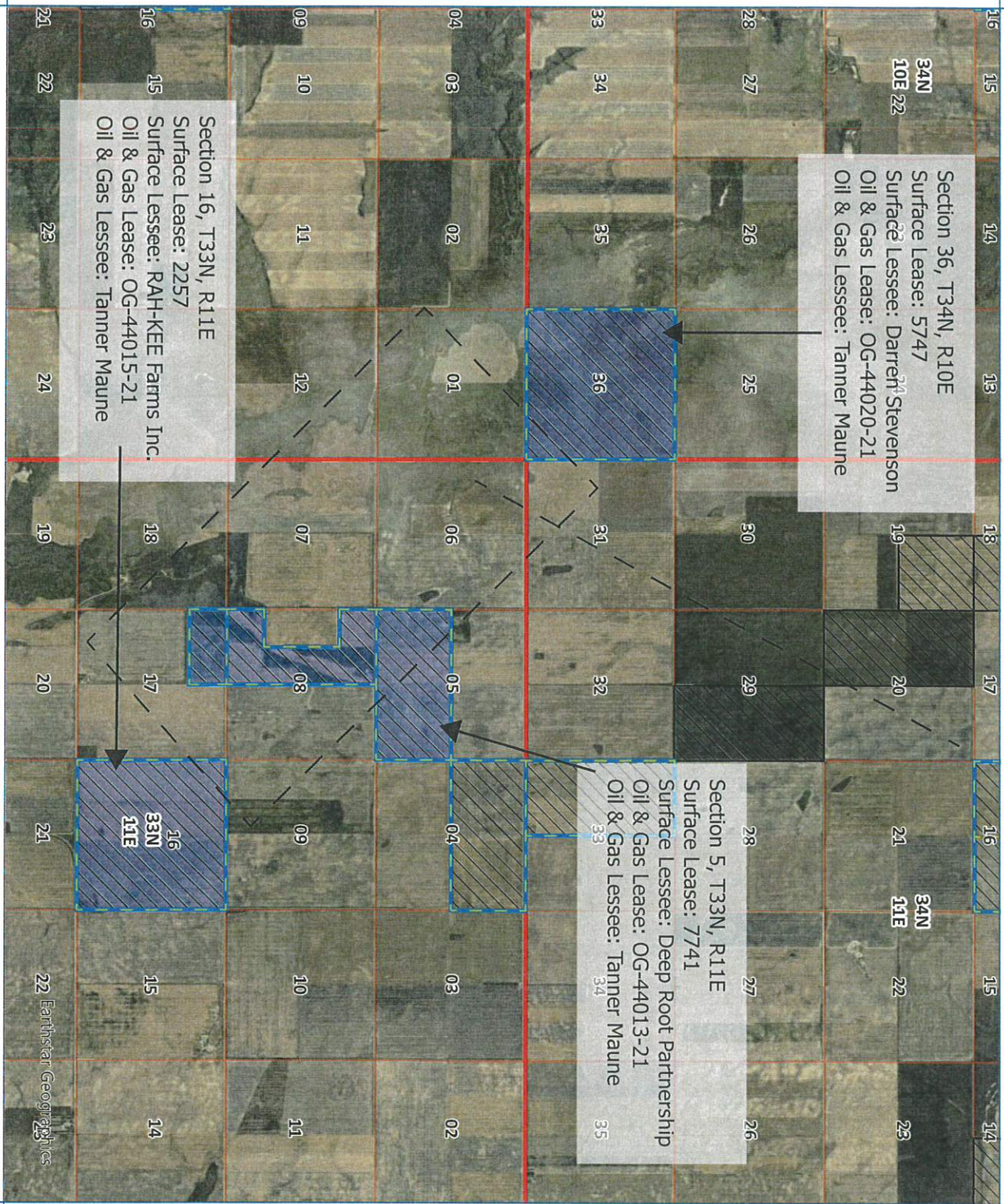
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Seismic Permit # 1612-22 (Thor Resources USA, LLC)



Legend

- - Seismic Exploration
- Ag & Grazing Lease
- Oil & Gas Lease
- Oil and Gas Tracts
- Surface Tracts



Vicinity Map

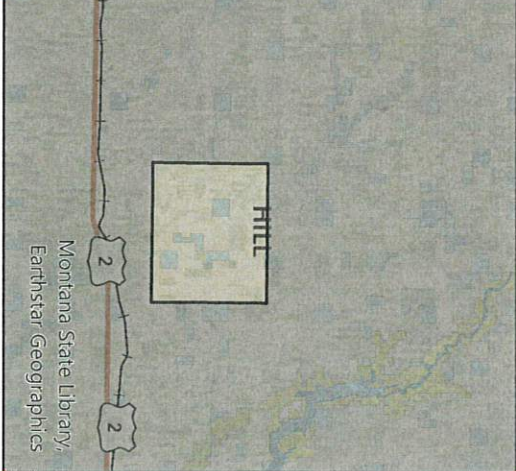







Exhibit B Project Location



Seismic Permit # 1612-22 (Thor Resources USA, LLC)



Legend

- Seismic Exploration
-  Gas Well
-  Ag & Grazing Lease
-  Oil & Gas Lease
-  Oil and Gas Tracts
-  Surface Tracts

Vicinity Map

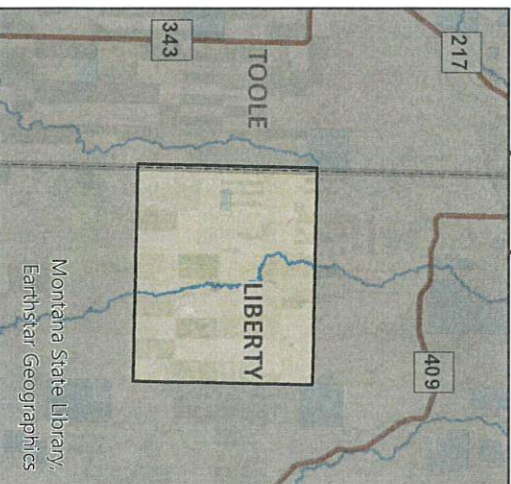


Exhibit B
Project Location



Author:
Michaela Hanson

4/25/2022

Seismic Permit # 1612-22 (Thor Resources USA, LLC)



Legend

- Seismic Exploration
- Ag & Grazing Lease
- Oil & Gas Lease
- Oil and Gas Tracts
- Surface Tracts

Vicinity Map

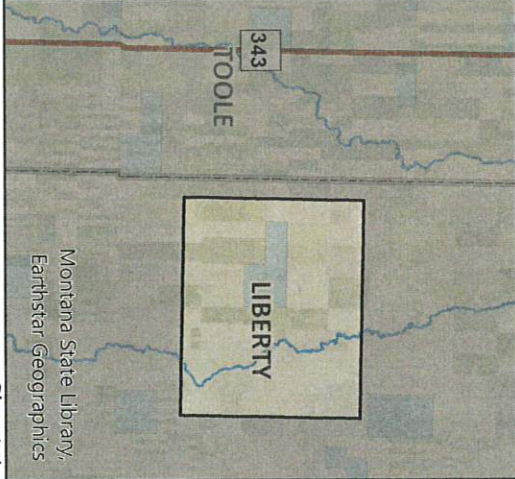


Exhibit B Project Location



Author:
Michaela Hanson

4/25/2022

Sheet 1

ATTACHMENT "A"

1. Permittee shall contact the Unit office in their region prior to commencing any surface activity.

Liberty County: Erik Eneboe, Conrad Unit Manager,
P O Box 961 Conrad, MT 59425 PH (406)278-7869.

Hill County: Dan Pendegraph, Land Use Specialist, Havre
PO Box 868, Havre, MT 59501 PH (406)265-5236

2. The permittee shall be responsible for controlling any noxious weeds introduced by permittee's activity on state owned land and shall prevent or eradicate the spread of those noxious weeds onto land adjoining the leased premises.
3. This tract may contain significant archaeological, historic, or paleontologic resources. If any of these resources are located within the direct route of the proposed seismic lines, the permittee shall cease all activity and contact the field Unit Office and the Department Archaeologist in Helena immediately.
4. It is the responsibility of the permittee to make sure that the seismic company that has been contracted to do the seismic work under this permit has a valid permit with the county and has registered their bond with the Secretary of State's office.
5. In order to prevent the introduction of noxious weeds on state lands, vehicles and ATV's used on state land must be power washed prior to use on the project.
6. Permittee shall contact surface lessee 48 hours prior to any seismic activity on State-owned lands.
7. Seismic activity may occur on dry or frozen ground only. No activity will be allowed during muddy conditions.
8. No vehicle oil changes or petroleum disposal shall occur on the state land. All seismic vehicles will contain suitable fire extinguishers. No open burning will be allowed on state land.
9. There will be no off road traffic other than that necessary to accomplish the seismographic goals. Vehicles will not be allowed to traverse steep slopes greater than 25%, areas with very thin soils that may be rutted and left open to erosion. All receiver lines will be placed on steep slopes by hand crews.
10. All gates will be closed and all fences that are taken down will be repaired as soon as possible. All flagging tape will be removed from the roads and fences leading into the site, along designated routes, and fence lines indicating where gates are located, once the project is completed.
11. No seismic activity will occur within 100 feet of woody draws. Permittee shall minimize impacts to woody vegetation. If the permittee wants to cut any brush to facilitate seismic activity, they must identify the particular site and receive permission from the Unit Office.
12. Permittee shall settle all damages with the surface lessee within a reasonable time period following the completion of the seismic project.
13. Permittee shall pay the payment reduction fees for all damages sustained to the Conservation Reserve Program acreage on this tract of State land.

